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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,892	06/19/2007	Takeshi Sakamoto	46884-5518	6599

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EXAMINER
FORD, KENISHA V

ART UNIT	PAPER NUMBER
2812	

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12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,892	SAKAMOTO ET AL.	
	Examiner	Art Unit	
	Kenisha V. Ford	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *29 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/29/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the application filed **29 September 2006**. Currently, claims 1-10 are pending.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 29 September 2006 have considered by the examiner.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,2,6 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujii et al. (US 2005/0272223 A1).

Regarding claim **1**, Fujii et al. discloses a laser processing method for irradiating a substrate having a front face formed with a laminate part including a plurality of functional devices with laser light while locating a light-converging point within the substrate (Fig. 17, p. 8, para. 131, lines 1-6) wherein the method comprises forming a first modified region along a first line to cut and forming a second modified region along the second line to be cut (Fig. 16, p. 7, para. 28) and the first modified region is more likely to cause the substrate to fracture than the second modified region (p. 7, para. 127).

Regarding claim **2**, Fujii et al. discloses a method where an expandable film is attached to the rear face of the substrate with the first and second modified regions (Fig. 19, p. 8, para. 132, lines 1-3) and the expandable film 23 is expanded and then blocks are cut into chips (Fig. 21, p. 8, para. 132, lines 6-9).

Regarding claim **6**, Fujii et al. discloses a laser processing method wherein the substrate is a semiconductor substrate and the first and second modified regions include a molten processed region (p. 4, para. 84, lines 1-13).

Regarding claim **10**, Fujii et al. discloses an object to be processed comprising a substrate and laminate part, formed on the front face of the substrate including a plurality of function devices (Fig. 17, p. 8, para. 131, lines 1-6). Fujii et al. also teaches that the first modified region is more likely to cause the substrate to fracture than the second modified region (p. 1, para. 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

> subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. (US 2005/0272223 A1) in view of Fukuyo et al. (US 2004/0002199 A1).

Fujii et al. discloses a laser processing method for irradiating a substrate having a front face formed with a laminate part including a plurality of functional devices with laser light while locating a light-converging point within the substrate (Fig. 17, p. 8, para. 131, lines 1-6) wherein the method comprises forming a first modified region along a first line to cut and forming a second modified region along the second line to be cut (Fig. 16, p. 7, para. 28) and the first modified region is more likely to cause the substrate to fracture than the second modified region (p. 7, para. 127).

Fujii et al. does not teach, regarding claims 3,4 and 5, Fujii et al. does not teach a laser processing method wherein the second line to cut passes between first lines to cut neighbor each other, the first and second lines to cut are substantially parallel to each other or where the first and second lines to cut intersect each other. Regarding claims 7,8 and 9, Fujii et al. does not teach that the first modified region in a part extending along the first line to cut in the substrate has a different forming density, different size and is formed in a different position from that of the second modified region in a part extending along the second line to cut in the substrate.

However, regarding claim **3**, Fukuyo et al. discloses a laser processing method wherein the second line to cut passes between first lines to cut neighbor each other (p.41, para. 507). Also, in regard to claim **4**, Fukuyo et al. discloses a method wherein the first and second lines to cut are substantially parallel to each other (p. 41, para. 506, lines 1-3). In addition, regarding claim **5**, Fukuyo et al. discloses a method wherein the first and second lines to cut intersect each other (Fig. 100, p. 41, para. 506, lines 7-12).

Regarding claims **7**,**8** and **9**, Fukuyo et al. discloses a laser processing method wherein the first modified region in a part extended has a forming density different from that of the second modified region (p. 5, para. 48), a size different from that of the second modified region (p. 4, para. 38) and a different position (p. 4, para. 39) from that of the second modified region wherein the second modified region is in a part extending along the second line to cut in the substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Fukuyo et al. with the method disclosed in Fujii et al. to control the size and placement of the modified spots, which make up the modified regions, thereby affecting the accuracy in cutting of the object to be processed along the line along which the object is intended to be cut (p. 5, para. 49).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenisha V. Ford whose telephone number is (571) 270-3328. The examiner can normally be reached on Monday-Thursday 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KVF

MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER